

# Notice of Allowability

Application No.

10/724,470

Examiner

Shawn Gu

Applicant(s)

KLEIN, DEAN A.

Art Unit

2189

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Amendment filed on 27 February 2006 and the telephone interview of 25 April 2006.
2. ☒ The allowed claim(s) is/are 1,5-10,16-21,24-32,34-45 and 47-49.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

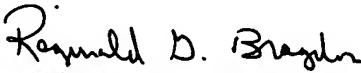
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 2/27/2006
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

  
REGINALD G. BRAGDON  
PRIMARY EXAMINER

## **DETAILED ACTION**

### ***Response to Amendment***

1. This Office action is in response to the amendment filed 27 February 2006. Claims 1, 5-10, 16-21, 24-32, 34-45 and 47-49 have been allowed. Claims 2-4, 11-15, 22, 23, 33, and 46 have been cancelled.

### ***Examiner's Amendment***

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with John King (REG #: 34,362) on 25 April 2006.

3. In the Claims, the following amendments have been made:

21. (Currently Amended) A method for comparing cache memory data in a digital processing system with a test data string, the method comprising:

receiving an instruction to perform a compare operation, said instruction comprising a starting address and a test data string for use in said compare

operation;

routing the instruction to a data string manipulation circuit;

routing the starting address for use in the compare operation from the data string manipulation circuit to a cache memory;

aligning the test data string with an offset of the starting address prior to said compare operation;

comparing the test data string with cached data stored in a cache line of the cache memory, wherein said test data string comprises fewer bytes than the cache line; and

routing an address of at least a portion of the cached data stored in the cache line of the cache memory that matches the test data string to the data string manipulation circuit.

31. (Currently Amended) A method for comparing a string of data in a cache memory with a test data string, the method comprising:

receiving an instruction to perform a compare operation, said instruction comprising a starting address for use in said compare operation;

routing the instruction to a data string manipulation circuit;

routing the starting address for use in the compare operation from the data string manipulation circuit to a cache memory array;

aligning a test data string with data stored in the cache memory array prior to said compare operation;

comparing the test data string with the data stored in the cache memory array; and

routing an address of cached data matching the test data string to the data string manipulation circuit.

39. (Currently Amended) A cache memory comprising:

a data source means for storing a test data;

a cache memory means for storing at least one cache line comprising a plurality of bytes of data;

a means for comparing the test data with the plurality of bytes of data, the means for comparing coupled to the data source means and to the cache memory means; and

a means for decoding coupled to the means for comparing, wherein the means for decoding is capable of identifying respective addresses of multiple ones of the plurality of bytes of data of the cache line that match at least a portion of the test data.

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### Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shawn Gu whose telephone number is (571) 272-0703. The examiner can normally be reached on 9am-5pm, Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Reginald Bragdon can be reached on (571) 272-4204. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Shawn X Gu  
Patent Examiner  
Art Unit 2189



REGINALD G. BRAGDON  
PRIMARY EXAMINER

25 April 2006